

PRESENTATION BENT IRON WORK DESIGN WITH THIS NUMBER.

Hobbies

• A Weekly Journal •

For Amateurs of Both Sexes.

No. 14. VOL. I.

JANUARY 18, 1896.

ONE PENNY.

Stamps and Stamp Collecting.

How to make a Fretwork Chess Board.

Bent Iron Work.

Wood Carving for Amateurs.

Photographic Notes and Hints.

Magic Lantern Slides.

Pigeons for Pleasure and Profit.

Lantern Slide Exchange.

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LANTERN SLIDES BY REDUCTION.



IN the last article we described how to make Lantern Slides by contact, and we shall now endeavour to show how Lantern Slides may be made by reduction in the camera.

This method has advantages over the method already described. Defects in negatives may be overcome by what is termed "dodging," and very much better opportunities are afforded of printing in clouds and removing defects. Any portion of the negative may be selected, and by enlargement or reduction may be made to cover the whole field, or otherwise, of the Lantern plate. The exposure is under complete control, and if there is a necessity, it is possible, by copying in the camera, to make a Lantern Slide from a negative that is fixed, but that has neither been washed nor dried.

Much more latitude is given to the operator, in every sense, when copying in the camera, and with very much greater certainty of success. We therefore cordially recommend readers of *Hobbies* to adopt the method now under review in preference to the quicker and less difficult method of making Lantern Slides by contact.

It is our intention to give two or three sketches in an early number showing how to make the various pieces of apparatus required; but for the present we must content ourselves with a description of what to do and how to do it.

Making a Lantern Slide by this method is simply the photographing of a negative by transmitted light, with the result that you get a transparency which is a positive instead of—as in ordinary photography—a negative. The negative represents the scene to be photographed, and is focussed in identically the same way: the light passes through the negative, and the image is conducted—if we may so say—on to the sensitive Lantern plate, which in the camera occupies the identical position of the dry plate.

In order that the negative shall be properly illuminated, it is necessary to set up a stage or frame to hold the same, and it should be so constructed as to permit of any portion of the

negative being placed central with the optical system of the lens. If this is done any portion of the negative may be copied; on the other hand, the whole field of the negative may be covered, and a reduced picture of the size of the Lantern plate, $3\frac{1}{2} \times 3\frac{1}{2}$, secured.

Difficulties present themselves with some negatives, as it is impossible, for instance, to copy a long, narrow negative, say $7\frac{1}{2}$ in. \times 5 in., and secure everything on a Lantern plate $3\frac{1}{2}$ in. by $3\frac{1}{2}$ in. It is here that the question of masking must come in. Presuming that the picture is $7\frac{1}{2}$ inches at the base, it will be desirable to centre this on the $3\frac{1}{2}$ plate and sacrifice the plate top and bottom, and when the Slide is mounted to make a mask of the right proportion. These difficulties do not, however, affect the general process of copying in the camera, with which we are now concerned.

It will be necessary, just as in photography, to cut off extraneous light. The whole of the light which is to find its way through the lens must first pass through the negative, so that the camera should be placed upon a table or stage which will permit of a backward and forward motion. Rough focussing may be done by moving the camera, after which the actual focussing will be done, as in photography, with the rack and pinion attached to the camera for the purpose.

We shall give a working drawing later on for the stage and frame, which readers of *Hobbies* will be able to make for themselves.

There are several arrangements in the market, but it will not be difficult for any hobbyist to rig up all he wants himself.

As already intimated the negative is placed in a carrier, and arranged so that it can be raised, lowered, or moved laterally. At an angle say of 45° a piece of white opal glass, card, or tin should be placed behind the frame holding the negative, to act as a reflector, and throw all the available light on to the negative. This reflector permits of even illumination, and should always be resorted to. Care must be taken that in placing the camera, say by a window, no shadows fall upon the reflector or obstruct the lighting of the negative.

Midway on the stage the camera is set down. It should travel up and down between two parallel bars or fillets upon the stage, which just hold the baseboard of the camera. The camera should have a short focus lens. The camera and frame are covered with a focussing cloth, and the negative having been securely placed and adjusted in the frame, the image upon the ground glass is examined and brought to a proper focus in the ordinary manner. The Lantern plate is then placed in a carrier fitting the dark slide of the camera. The ground glass—or focussing screen—of the camera should be marked with an exact square, $3\frac{1}{4} \times 3\frac{1}{4}$, quite central with the optical system of the lens. The size of Camera is a matter of choice, and will depend considerably on the size of negatives it is intended to copy. We shall presently describe this point more fully. With regard to the $3\frac{1}{4} \times 3\frac{1}{4}$ square on the ground glass, it would be well if much work were going to be done to make a mask for the screen, covering it entirely except for that opening.

In making the exposure, the operator must be guided to a great extent by local circumstances, the position of the room, the time of day, and the strength of light. Mr. Dresser says, with average light and a negative of fair density lens, working at $f/16$ close to a window, an average of two minutes' exposure may be reckoned upon.

Over or under exposure must be dealt with in development, and, in exactly the same manner, as the ordinary negative makers of Lantern plates usually give their own formulæ, and with it instructions as to faults in exposure, and such hints should be closely followed. We commend the adoption of makers' formulæ, holding that they are likely to know what is the best developer, and under what conditions the plates will give the best result.

We will conclude this week's article by quoting a paragraph from Mr. Dresser's little handbook on "Lantern Slides." He says:—"Slides may be made in a camera in any room where there is a window receiving a fair amount of daylight. A piece of ground glass may be placed against the window, the negative (film towards the camera, or the transparency will be reversed, facing the wrong way) fastened to it

with gummed paper, and then the rest of the window blocked out with brown paper. The camera may be placed on a box upon the table, and brought within proper distance, care being taken to keep the camera square with the negative, or the transparency will be distorted."

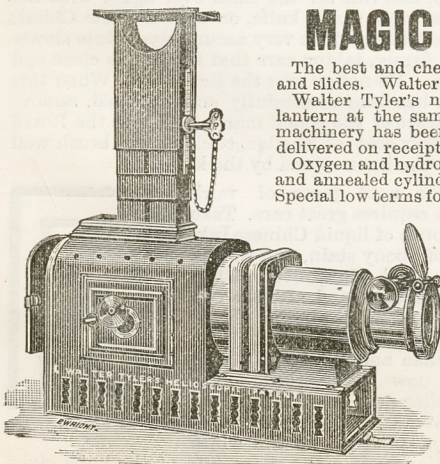
Many of our readers may perhaps be in a position to rig up some such arrangement in an empty room, in which case Lantern Slide making by copying in the camera will be carried out under the best advantages.

(To be continued.)

"HOBBIES" Lantern Slide Exchange.

Mr. James Boyle, jun., 283, Preston New Road, Blackburn, who has kindly undertaken the duties of Honorary Secretary of the newly-formed *Hobbies* Lantern Slide Exchange, informs us that the following Sets of Slides are now at the disposal of the members:—

Set.	Title.	No. of Slides.	Remarks.
1	JAPAN AND THE JAPANESE	50	Coloured
2	LIFEBOAT	7	Coloured
3	MISTLETOE BOUGH	10	Coloured
4	HER BENNY	50	Plain
5	A PEEP BEHIND THE SCENES	50	Plain
6	JAPANESE WAR	30	Coloured by native artists
7	EGYPT AND THE NILE	20	Coloured
8	ARCTIC REGIONS	20	Coloured
9	COMIC	40	Coloured and Mechanical
10	EFFECTS	24	Coloured
11	GABRIEL GRUB	24	Coloured
12	COTTON MACHINERY	50	Plain
13	BY SEA TO INDIA	6	Long panorama, coloured
14	MOTHER'S LAST WORDS	20	Coloured



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Walter Tyler's new catalogue, upwards of 500 pages, fully illustrated, now ready, post free, 12 stamps; smaller catalogue, 6 stamps; and second-hand lists, post free. Walter Tyler, 48, Waterloo Road, London.

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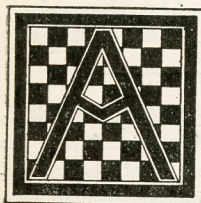
48 to 50, and 94, WATERLOO ROAD,
LONDON, S.E.



.. FRETWORKING ..

SCROLL-SAWING, INLAY AND OVERLAYING

CHAP. XIV.—HOW TO MAKE A CHESS BOARD.



the other described more fully.

FRETTED BOARDS.

The first plan is to make a mere Fret Board, for which any such pattern as Fig. 90 would do. There is no difficulty in this, except the usual inconvenience in handling a large piece of wood. Three-Ply should be used, partly to prevent warping, and partly in case any quick-tempered player should, when he happens to be check-mated, bring his fist down with undue severity on the delicate Board. To prevent the inevitable results which would follow any such sudden impulse, a good plan is to cut the Board of one-eighth inch material, and then mount it on a piece of solid wood—the latter being thicker, and of a different variety. Small toes could then be screwed on underneath; and when finished the article would be quite strong and fit for everyday use. If used as a Table-top in this way, the fretted portion would tend to become a receptacle for dust; so it is suggested to keep the Board as a Board, and place it in an upright position when not in use.



FIG. 90.

STAINED BOARDS.

The second plan will not greatly strike the fancy of any reader who delights in elaborate scroll-sawing, but it may be mentioned, as a solid and useful Chess Board can easily be made by anyone who even does little in the way of Carpentry or Fretwork. Take a piece of some light-coloured, closely-grained wood, about 13 or 14 inches square, and from one-quarter to three-eighths inch thick. Holly would be most suitable, but it is often very difficult to procure such a wide piece in a flawless condition. Sycamore or

White Chestnut would do almost equally well, and a good piece can easily be had at any time. If finer varieties were wanted, Orange or Bird's Eye Maple, or even Satinwood, might be tried, but there is always the uncertainty of being able to get them sufficiently wide. As the Chess squares are better to be of a fairly large size, the piece of wood should first be secured as large as possible, and the diagram then arranged to suit.

See that the wood is well planed and sand-papered, and that the edges are squared off to a definite size; a bevelled edge is preferable.

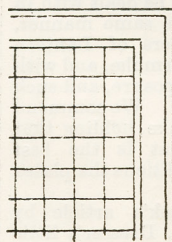


FIG. 91.

Draw the diagram on the wood with a very hard and sharp pencil—of course using a ruler. Make the border simple, as in Fig. 91, and rule all the lines faintly.

If the squares are each $1\frac{1}{4}$ inch and the border $1\frac{1}{2}$ inch, this will give a Board 13 inches square, which is a reasonably small size. For ordinary use, squares of $1\frac{1}{2}$ inch are preferable, but this depends on the size of the wood obtainable.

When all the lines are drawn in, give the Board a coat of Shellac, or a rub over with French Polish, and clean down gently with glasspaper. Then take a Brass or Steel straight edge, and rule all the lines over again with the point of a sharp knife, or with a Skew Chisel. This must be done very accurately. Rule slowly and firmly, taking care that the cut is clear and even. Do not go over the line twice. When this task has been successfully accomplished, remove all trace of the pencil marks, and give the Board another coat of Shellac, rubbing the brush well into the lines caused by the knife.

The next piece of work also requires great care. Take a bottle of liquid Chinese Ink, or of ebony stain, and with a fine brush fill up every alternate square, and also the two edges of the border, as shewn in Fig. 92. The object of the Shellac and the knife ruling is now understood; the Shellac acts as a fixative, and prevents the Ink or Stain from spreading to the white portions, while the sharp line of the knife gives

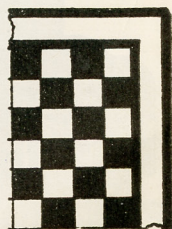


FIG. 92.

the surface an appearance of actual Inlaid work. If the Stain be applied carelessly, and the brush allowed to go over the line, the deception is apparent, and the work spoilt. Should the wood be at all porous, two coats of Stain will be necessary. When thoroughly dry, the Board may be polished; or the Sycamore can merely be finished off with another wash of Shellac, and the black may receive a rub up with some hard brush, which will produce a rather dull polish, and give the effect of Ebony.

If a very white piece of wood were selected, a Mahogany or Walnut Stain might be used for the dark squares instead of the Ebonizing Solution.

INLAID BOARDS.

The third method is the genuine and workmanship-like one of having the light and dark squares really of different woods. This may be done to an elaborate degree, and each square ornamented by the use of fancy veneers, but as amateurs usually find great difficulty in working with these, the simpler plan only will be described. As the chief matter in making an Inlaid Chess Board is to keep all the squares in their proper positions, this is the point to which attention must be drawn. Professional hands may smile at these instructions and term them "childish;" but it must be remembered that they are written for the amateur who has a limited experience, and possibly but a small stock of tools and materials.

Choose two such woods as Padouk and Sycamore, or any others which give a fairly strong contrast, rule out the squares on the lighter piece, and nail the two boards firmly together.

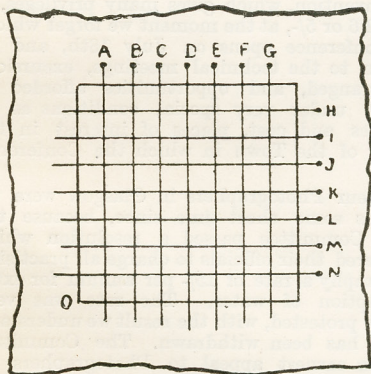


FIG. 93.

Now look at Fig. 93. Drill holes at A, B, C, D, E, F, and G, and cut down through each line, being careful that the saw is quite vertical. When the end of a line is arrived at, do not run the saw through the border, as all the wood round the squares has to be kept intact.

A good plan here is to take a piece of thin paper and paste it over the back of the wood. As the work must now stand till this is dry, it is better to have something else to go on with in the interval.

The next matter is to drill holes at H, I, J, K, L, M, and N, and cut the cross lines in a similar way. It will then be seen that, with the exception of the row next the border, all the squares are now released. The use of the paper is to prevent these from falling out during the

process of cutting, and consequently getting displaced. They may now, however, be carefully removed, and each one should be numbered, or marked in some way, so that its exact position may be known. For, remember, no matter how accurately the work is sawn, if a square is afterwards placed in any other position except that in which it was cut out, there will be *some* little fault; and if all the squares happened to get hopelessly mixed up, the devotion of a life-time would not ascertain their former positions.

Now to release the outer row of squares. As they effect the border line, they should be cut out *with* the border. If Padouk and Sycamore were used for the inner part, Mahogany would be very suitable for the border. Take a piece, of the same thickness as the others, and fix the combined Padouk and Sycamore board to it. Drill a very fine hole at O, and saw right round the border. Release the woods, again marking each piece carefully. What has now been achieved is this—the alternate squares must all fit together accurately, as they have been sawn at one cutting; and the outer row of squares must lie closely against the border, because they also have been sawn at once. Thus everything is correct; with the border being solid, the squares cannot get displaced, and all that has to be done is to fit them in position, paste a bit of paper over the back in order that all may be held tight, and proceed to finish the work.

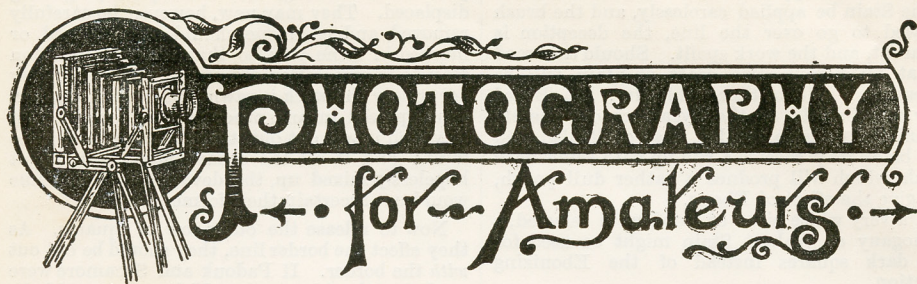
The border may be plain or ornamental; that is a matter which does not require consideration here. If two pieces of Mahogany were nailed together when the border is being cut, a couple of Chess Boards could be made, as there must—in any case—be a double set of squares. When Veneers, or one-sixteenth inch woods are used, several Boards might be done at a cutting. The outer edge of the border should not be sawn until the interior has been cut out; if done so, there would be no adequate means of nailing the Padouk and Sycamore to it.

The Chess Board, when finished, would be treated as any ordinary piece of Inlay work, and would look best when brightly polished. As Mahogany can easily be procured up to 18 or 20 inches in width, a Table-top could be made of the article.

A method of obtaining an effect somewhat similar to that just described is to adopt the "Imitation Inlay" plan which was briefly touched upon in Chapter VII. Instead of using two woods, and Inlaying one into the other, only one board is required. Transfer the diagram as in Fig. 93, and put a mark on each square so that it may not get displaced. Drill a small hole at O, and cut out the large inside square; then run the saw along the straight lines till the 64 small squares are detached. When the entire surface is smooth and clean, take each alternate square and stain it with Walnut or Ebony Solution. The work must then be left till thoroughly dry, and the squares afterwards glued in position as if genuine Inlaying were being done. Polish can then be applied.

Of course many readers will despise this plan; but it is by no means so simple a method as it may appear, and considerable skill and care are required in order to secure success.

(To be continued.)



NOTES OF THE WEEK.

It is interesting to Photographers to note that the very first illustration which appeared in *Punch* from Du Maurier's pencil, represented Mr. Whistler and the artist entering a photographic studio; this was in 1860. In the legend under the picture the Photographer censures the two gentlemen because they were smoking, saying that his was not an ordinary studio like an artist's where everyone smokes and everything is in disorder.

Many who have taken up Photography as a HOBBY will attempt colouring Photographs. Space will not permit us to give any lengthy instructions here, but later on we will give an article upon this subject. The print can be "worked upon" whether mounted or unmounted. A slight damping of the surface will in the case of small prints be sufficient, but for large Photographs, "Mahlstick," writing in the *Exchange and Mart*, suggests a weak solution of isinglass with a few drops of spirits of wine, and gives a formula for preparing a special mixture composed of purified ox-gall, distilled water, rectified spirits, and carbolic acid. When this is mixed it should be rubbed lightly over the print. There are many specially prepared colours or pigments which may be obtained from good artist colourmen. The colours known as Brun's require no medium, and are ready for use.

Mr. W. Friese-Green, a clever Photographic experimentalist, has designed a new machine for the rapid reproduction of Photographic prints. A roll of sensitised Photographic tissue is used, which has given to it an intermittent motion.

At a recent meeting of the Richmond Photographic Society, the proceedings differed somewhat from the usual character of societies' meetings, Mr. L. Taylor giving an interesting and thoroughly practical demonstration on "Frame-making and Photographic Carpentry." Such interest was taken in the subject that Mr. Taylor was only able to deal with "Frame-making." Every detail in connection with the making of frames was practically shown and explained. Mr. Taylor had with him all the necessary tools and appliances; he described and used them, giving many hints and tips as to how best to make a frame for Photographs. We are pleased to note so novel a departure from the stereotyped order of Photographic Societies' meetings. The subject is one which the man, or woman, with a HOBBY might well take up.

All workers in Photography should include in their library a copy of the *British Journal of Photography Almanac*. It is full of good things, short chatty articles upon every conceivable subject, and is a perfect encyclopædia of all that a Photographer can ever need in regard to apparatus and materials.

The Photographic Convention of the United Kingdom will, this year, hold their Annual Conference at Leeds, under the presidency of Mr. H. P. Robinson, of Tunbridge Wells, a gentleman known as a Photographer and a writer upon Photographic matters throughout the kingdom. Mr. Godfrey Bingley, Shaw Lane, Headingley, near Leeds, is the Local Secretary, and will be pleased to give the fullest particulars as to what is to be done. The subscription to the Convention, which gives many privileges, is either 2/6 or 5/-, at the moment we forget which. The Conference opens on July 18th, and in addition to the technical meetings, excursions are arranged, and opportunities afforded of visiting, under very special conditions as to privileges and cost, places of interest in the vicinity of the Town in which the Conference is held.

Amateur Photographers in Glasgow were up in arms some short time since, because the Water Committee passed a resolution which empowered their officials to charge all practising Photography a rate of 15/- per annum for extra consumption of water. The rate was very strongly protested, with the result we understand that it has been withdrawn. The Committee made an earnest appeal to Photographers to prevent waste.

An announcement has been made that Mr. T. E. Freshwater, F.R.M.S., has perfected a method of projecting stereoscopic pictures, with the aid of the Optical Lantern, on to a screen. We shall follow this up, and give our readers early information upon the subject. Stereoscopic effect with the Lantern will increase the popularity of Lantern lectures enormously. If the system is a simple one, and can be practically applied to existing Lanterns, it will be received with much rejoicing by all lecturers.

The *American Amateur Photographer* for December is before us. It is published by the "Outing" Company of New York, is beautifully printed, and contains many admirable illustrations. The plates are chiefly reproductions of Photographs by English workers, and include

"A Hampshire Home," J. Kidson Taylor; "June in the Marshes," Karl Greger; "On the Lonely Shore," Harry Tolley; and others by Lyd. Sawyer, Craig Annan, T. S. Cembrano, &c. The articles are of considerable interest, and the magazine is well worth the 20 cents. at which it is published.

"G. D.," a writer in *Photography* who is well known to be Mr. George Davison, who so ably filled the position of Hon. Secretary to the Camera Club, has been writing upon illustrations, particularly in reference to the reproduction of Photographs. He concludes an able article by saying:—"Very few Photographers care to be so uncompromising as to refuse bad reproduction at any price, and some appear to expect a different principle of action in dealing with Photographic Journals as compared with the treatment accorded the general Illustrated Press. The fact is, that the Photographs in Journals and Catalogues, where they are uniformly murdered, tends rather to discredit the art in its most refined possibilities, although it may advertise the object in view, and even popularise Photography." We are sorry to be obliged to endorse Mr. Davison's sentiments. The Photographs reproduced in English Photographic Journals have little to commend them, but if we turn to America we find a very different state of things; their Illustrations by process or half-tone work are perfection. Why should they not be done as well here? It is a question that the paper maker and printer must answer.

There are many fields of special work for those who practise Photography, and all should make up their mind to perfect him or herself in special work. A very capable Photographer, Mr. Reginald B. Lodge, has devoted himself to the Photographing of Birds and Birds' nests with much success. He uses the telephoto lens, a stand Camera, and very often has to enclose himself and Camera in a large green bag, and so "stalk his game." Such work calls for an enormous amount of patience. There have been occasions, we understand, when Mr. Lodge has waited *seven hours* to Photograph a particular subject.

We have been oftentimes asked whether Photographic plates and films after development may be washed in sea water. We have always answered in the affirmative. The *Kodak News* adds, as a rider, that they should have a final short soak or rinse in plain water before drying off.

A REMARKABLE PHOTOGRAPHIC DISCOVERY.

HOW TO PHOTOGRAPH THE CONTENTS OF A CLOSED BOX.

The Vienna correspondent of the *Standard* says that "A very important scientific discovery has recently been made by Professor Routgen, of Würzburg University, the details of which have already reached Vienna, and are now being carefully examined by several scientific authorities here. Professor Routgen uses the light emitted from one of Crookes' vacuum tubes, through which an electric current is passed, to act upon an ordinary photographic plate. The invisible light rays, of whose existence there is already ample evidence, then show this peculiarity, that to them wood and various other organic substances are transparent, whilst metals and bones, human and animal alike, are opaque to those rays. That is to say, they will, for instance, absorb the rays which have passed through a wooden case in which bones or metals are enclosed. Thus it is possible to photograph in the manner described any bones or metals which may be contained in wooden or woollen coverings. Moreover, as human flesh being organic matter acts in the same way as such coverings towards the invisible rays from a Crookes' vacuum tube, it has become possible to photograph the bones, say, of a human hand, without the flesh surrounding the bones appearing on the plate. There are photographs of this description already in Vienna. They show the bones of the hand, together with the rings that were worn on the fingers,—metals, as I remarked above, being opaque to these rays—but they show nothing else. They are ghastly enough in appearance, but, from a scientific point of view, they open up a wide field for speculation. Among the practical uses of the new discovery, it is stated that it will henceforth be possible for surgeons to determine by help of this new branch of photography the exact position of any bullet that may be embedded in the human body, or, again, to render visible any fractures there may be in the bones prior to performing any operation on the respective part of the body. And there are various other uses to which the new method may be put, as, for example, in connection with caries and other bone diseases. The *Vienna Presse* assures its readers that there is no joke or humbug in the matter. It is a serious discovery by a serious German Professor."

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STAMPS

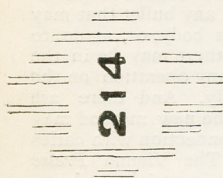
Week by Week.

A Philatelic Causerie by PERCY C. BISHOP,

Joint Editor of the "STAMP COLLECTORS' FORTNIGHTLY;" Ex-Editor of "THE PHILATELIC JOURNAL" and "PHILATELIC REVIEW OF REVIEWS;" General Secretary of the LONDON PHILATELIC CLUB.

MY thanks are due to those readers who have written me with promises to support the proposed competitive exhibition of foreign stamps. Although I have not received a hundred such promises of support, I gather that the general feeling of my readers is favourable to the enterprise. The idea, therefore, will now be seriously considered, and the details published as soon as practicable. Any suggestions that intending helpers or competitors may make will be welcomed.

—:—



Here is the promised reproduction of the spurious postmark lately seen on large numbers of Queensland reprints. So clumsy is this attempt to make revenue out of stamp collectors that most of the postmarked reprints yet seen are fully gummed and in mint condition, thus shewing clearly that the postmark has not been applied for the legitimate postal purpose. Collectors will need to be chary of purchasing Queensland stamps that bear this particular obliteration.

—:—

Of much importance to stamp collectors and dealers, especially dealers, is the case which has recently engaged the attention of the Cardiff Stipendiary. Arthur J. Williams and Tom Rees, two Government clerks, are charged with having stolen English official postage stamps, of the kinds known "J. R. Official" and "Government Parcels," to the value of £30 15s. 6d. It will be unnecessary to tell *Hobbies* readers that some of these stamps, especially the high values, have attained very big prices in the Philatelic market, by reason of the fact that they are intended purely for official use, and are not supposed to be obtain-

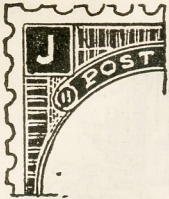
able by the general public. It is an undeniable fact that a considerable proportion of the high-value official stamps now in the possession of stamp collectors have been obtained either by means of the dishonesty of Government clerks or the complacency of high Government officials. By ordinary means and through the ordinary channels no member of the general public can obtain unused specimens of these stamps—hence their rarity, and hence also the importance of this prosecution from a Philatelic point of view. The defendants, Williams and Rees, are committed for trial to the Quarter Sessions.

—:—

THE PLATE NUMBERS OF ENGLISH STAMPS—*Continued.*

In continuing this list of plate numbers, which I somewhat abruptly broke off in No. 11 in order to procure illustrations of the watermarks, I have to begin with an apology. The series of experimental illustrations I obtained proved to be inaccurate in one or two important respects. Rather than use illustrations which might possibly tend to mislead my readers, I have decided to describe the watermarks as best I can with the aid of words only. I may be pardoned if I explain my reason for taking this course. In No. 2 of *Hobbies* I explained, for the benefit of beginners, the method of mounting stamps in an album by means of gummed hinges, and gave an illustration of the hinge affixed to the stamp. Unfortunately, while the explanatory letterpress was my own, the drawing was by an artist who knew nothing of stamp collecting, and whose sketch consequently did not accurately convey the idea. The *Bazaar*, in reviewing *Hobbies*, quickly seized upon this fact, and somewhat severely criticised me for the errors in another man's work! *Verb. sap.*

To resume my description of the plate numbers on the fourpenny issue:



In 1865 the design of the fourpenny stamp was slightly altered. The small white letters in each corner of the stamp now gave place to white letters of a much larger size. The watermark was still the garter of 1857, as in plates 3 and 4.

Plates 7, 8, and 9, orange-red, covering the period from 1865 to 1868, have nothing remarkable to distinguish them.

In 1867 came another change of watermark to the "garter of 1867," which is precisely similar to the garter of 1857, except that the buckle is at the top.

Plate 9 is found also with this watermark.

Plates 10, 11, and 12, dark orange-red, all have this watermark.

The next watermark change was the "garter of 1873," which is thicker in outline than its predecessors, being made with thicker wire.

Plates 12 (dark orange-red), 12 (pale vermillion), 13 and 14, pale vermillion, all bear as watermark the garter of 1873.

In 1873 large coloured letters were substituted for the large white ones in the corner squares. Watermark, still a garter of 1873.

Plates 15 (vermillion), 15 (sage green), 16 (sage green), and 17 (mouse brown) belong to this qualification.

The watermark, in 1881, changed to the crown watermark, now used for all the current English stamps.

Plates 17 and 18, both of the mouse brown colour, exist with this watermark.

The scarcest of these later fourpenny plate numbers are plate 15, vermillion, and plate 17, mouse brown, garter watermark.

NEW ISSUES OF STAMPS.

*. Items for this department will be gratefully received from any Philatelic readers who happen to receive early information of new issues, or of impending changes in the postal arrangements of any country.

CURACAO.—The 10c. stamp with head of the King has been surcharged "2½ cents." in carmine.

MAURITIUS.—The values of the forthcoming new issue, according to latest advices, will range from 1 cent. up to 10 rupees!

ROUMANIA.—The illustration given here is of the new "special delivery" stamp described in No. 11 of *Hobbies*. The stamp is watermarked with a coat of arms, placed sideways, and is perforated 13.



(To be continued.)

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Supply of Back Numbers.

The first and second numbers of *Hobbies* having been long since sold out, while the demand for them shows but little sign of abatement, we have thought it advisable to have these numbers reprinted, so that recent Subscribers may be enabled to complete their volumes.

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CHAP. II.—THE YOUNG BIRDS.



NOTHING is so distasteful as a loft filled with mongrel Pigeons displaying no definite breed, and only fit for pies. Yet it only requires a little consideration to see that such a worthless loft might easily be turned into a source of pleasure and also income.

It is not proposed in these articles to enter into the question of breeding *common* Pigeons as a food. They will add but little to one's income, as the price they fetch is so small, whilst fancy pigeons, if properly managed, will prove to be very remunerative. Through the medium of the many Shows, good birds win valuable prizes, and change hands at high figures. In the first place, it may be positively stated that in breeding fancy pigeons blood is everything. Make your purchase from a well-known breeder of good standing in the fancy world, pay a decent price for your pair of birds to begin breeding with, and you stand a good chance of success. It is even better to purchase faulty birds for stock purposes from an old and well-known winning strain than for a young beginner to buy apparently perfect birds where the pedigree or ancestry is doubtful. First see that the strain from which you buy your birds is an old and carefully bred one; secondly, be sure that the person with whom you are dealing may be trusted to sell birds of that particular strain. Remember that the secret of the permanent success of most strains is that their owner has won prizes with *several* families of the *same* breed and strain. Before making a purchase, visit one or two Shows, and make comparison between the various winners. Much may be learnt by the amateur at such Exhibitions.

It is wise to commence mating during the next few months. The best plan, if the cock and hen be strangers to each other, is to place them in a mating pen or matching pen, with a partition of wire between them, so that the male bird can see his partner, and "bill and coo" to her at his pleasure. An excellent mating pen may be obtained for a few shillings, but one can easily be made from a small sized box, divided in half with strips of wire. For nesting pans, earthenware bowls or pans are best. Many patterns are made, and may be purchased at most earthenware shops. In the nest, first place coarse pine saw-dust, an inch deep. If pine cannot be obtained, sprinkle a little turpentine on ordinary saw-dust. The pur-

pose of this is to keep away vermin. Some saw-dust and sand should also be well sprinkled over the floor. Always provide two nesting pans, and place a few birch twigs on the saw-dust. Most fanciers remove the first egg which is laid, and substitute a dummy until the second egg is laid, which is usually a day or two later. The young birds are generally born on the eighteenth day after the laying of the second egg. Here it should be noticed how Pigeons differ from fowls. Unlike chickens, there is no need to disturb the young, or even to feed them. It is best for only one person to visit the birds, and to coax them and get them used to him by throwing down a little grain, say hempseed.

When eggs are being hatched, the hen sits all night, and usually till about ten in the morning. She then stays off till late in the afternoon, during which time the male bird takes her place. It often happens the young ones die in the shell unless assisted, and if any trouble is apparent, it is wise to extend the small crack usually seen on the egg about the eighteenth day, or to hold the cracked part in fairly hot water, being careful not to immerse the egg. A day or so before the young ones appear, a kind of pap or soft food is secreted in the crops of both parents. This closely resembles curd, and is eagerly devoured by the young, who insert their little beaks in their parents' mouths. The young Pigeon's beak is thick, soft, and quite fleshy in appearance, so long as the soft food lasts. This food gradually increases in solidity until the "squabs," as the young birds are first called, are able to take grain. Their growth is simply marvellous, and can be almost seen. To give an idea of this, it may be mentioned that whilst a Pigeon when hatched weighs but half an ounce, in the ordinary course, at the seventh day it weighs five-and-a-half ounces, and at one month no less than twelve ounces. At six weeks old, the squeakers (as they are termed when a fortnight old), can be taken from their home and placed in a loft by themselves. The old birds will then invariably go to nest again, and generally it is possible to breed not less than six pairs in a season. It is not advisable for any breeding to take place after August, or the first week in September. It is advisable when a young bird of a really good strain is eight or ten days old, to place on it a conference marking ring for the year in which it is hatched. These rings are obtainable from H. Allsopp, of 89, Spencer Street, Birmingham, who alone is empowered to supply them.

As for food, Pigeons should be given the best corn possible—good hard maple peas and tares in equal proportions, mixed with a little wheat, dari and tick beans. In summer a little green food should not be forgotten. Some people like to have a hopper for the birds to feed out of, but personally the writer prefers to throw the grain on the ground. Do not forget to have plenty of grit placed in a box at hand. Coarse river sand is good, but for sixpence a good sized bag of suitable stuff may be purchased at the corn merchants. This assists the birds in the digestion of food, and keeps them in perfect health. The water must be perfectly clean, and should be given fresh daily. A bar of salt should also be hung up on the pen or breeding box where the birds can peck it. All nest boxes should be placed on the ground, and should be divided into sections. Orange or lemon cases answer admirably when well lined out and made comfortable. The would-be Pigeon fancier must not forget that in dealing with Pigeons cleanliness is essential, and in the matter of disease and consequent disaster, prevention is better than cure. Therefore, use a little disinfectant, and keep the houses (which will be fully described later on), perfectly sweet. Be careful to see that no food is left lying about. Generally birds are overfed, and in such cases isolation for a day or so and practical abstinence from food is the best remedy. Between the bars of the pens it is wise to keep a lump of old mortar for the birds to peck at.

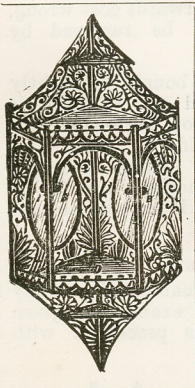
(To be continued.)

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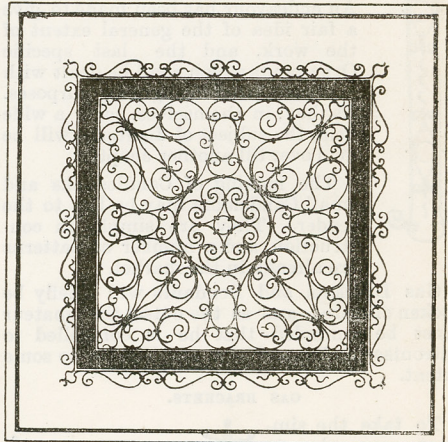
HARGER BROS., Settle, Yorks.

'Hobbies' Designs.



WING to the very heavy expense involved in the production of the Designs forming our Weekly Presentation Supplements, we cannot supply these with back numbers of *Hobbies*. Copies of them may, however, be obtained on sending *threepence* for each Design required to the Publisher of *Hobbies*, Bouverie House, Salisbury Square, London, E.C.

For the convenience of our readers we give below a complete list of the Designs already published.



No. 8. BENT IRON WORK TABLE STAND.

1. Midget Photo Frame, with Overlay Ornament.
2. "Aphrodite" Mirror Bracket.
3. Bent Iron Work Gong Stand.
4. Hanging Twine Box, with Overlay Ornament.
5. "Card" Inkstand.
6. Carved Adams Frame.
7. "Gasalier" Bracket.
8. Bent Iron Work Table Stand, for Cards, etc.
9. Carved Lamp Bracket.
10. Model of a Victoria.
11. "Toilet Glass" Cabinet Photo Frame.
12. "Swing-Boat" Match Holder.
13. Hanging Fretwork Calendar.
14. Bent Iron Work Grill Panel.

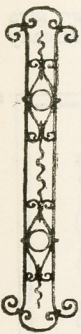
The following Designs are in preparation—

15. Carved Blotting Book Cover.
16. Prize Card Receiver.

NOTE.—The Patterns not otherwise designated are Fretwork.

BENT IRON WORK

CHAP. XIII.—GAS BRACKETS AND PENDANTS.



It is not intended to devote a separate chapter to every different kind of household article which can be made or ornamented with Ribbon Iron. An endeavour has been made to give a fair idea of the general extent of the work, and the last specific Ornaments which shall be dealt with are those used for lighting purposes. As they, in themselves, cover a wide field, the subject of Lanterns will be held over till another chapter.

The making of Candlesticks and small Candelabra may be left to the reader. They are simple in construction, and a number of patterns are already in the market.

Gas Brackets and Pendants will chiefly be spoken of here; and at the outset the amateur must be reminded that he is compelled to patronise the Brass Fitter and Worker to some extent.

GAS BRACKETS.

To take the simplest example to begin with, purchase a small Gas Bracket such as Fig. 111. The tubing is round, and is necessarily in Brass, so will eventually be blackened with the paint. Square tubing may also be had; it is more expensive, but the Ribbon Iron can be fixed to it with less difficulty. The width of the Iron Strip depends on the diameter of the tube; it should be a trifle less, and for a small article such as is given, five-sixteenths or three-eighths inch would be about right. Fig. 112

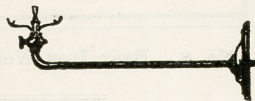


Fig. 111.

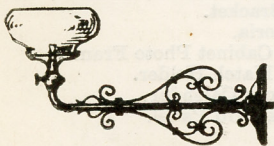


Fig. 112.

in mind that Rivets and Screws cannot be driven through the Brass tube. If, unhappily, they are, friends and relatives will be very tardy with their compliments when the gas happens to be turned on.

The Ornament should first be tied firmly with wire, and then a Collar twisted round to bind

Tube and Ribbon. The ends must be well soldered, and the wire should not be removed until all is secure.

Some practice will be required to do this work firmly, as the Strip Iron has an aggravating tendency to slip from its place; but a few trials will shew the way. If the Brass tubing be square, the difficulty is much less, as it is the circular form of the rod which causes all the mischief.

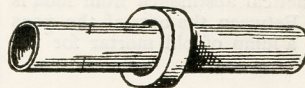


Fig. 113.

Another and stronger method of fixing is shewn in Fig. 113. Get the Brass Fitter to fix a

couple of necks on the tube at the places where the principal curves touch. Brackets may be purchased with necks already fitted on, but it is a chance if these are in the right position. Have small holes drilled in the necks, one above and one below, and then fix the Ribbon Ornament to them by means of a round-headed screw. This plan gives not only a firm, but a very pleasing joint, and should always be adopted with large work. It has an additional advantage—if anything afterwards goes wrong, the Ornament can easily be removed by unloosening the screws.

If the plain Bracket, when bought, is brightly polished, the reader should ask to have it *tarnished*, as in that condition the black paint lies on better. It should be mentioned that the tubing of all small Wrought Iron Gas Brackets and Pendants is made of Brass, and then blackened. Iron tubes are not made with such a small bore.

CURVED BRACKETS.

Curved Brackets can be ornamented in many effective ways. A specimen example is given in Fig. 114. The work is proceeded with

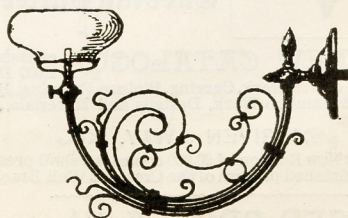


Fig. 114.

similarly to that just described, and does not require further elaboration. The fixing will, perhaps, be found easier, as the curve of the tube lessens the chance of slipping.

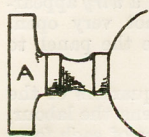


FIG. 115.

If the plain form of Gas Tap (Fig. 115) is objected to as being unlike Iron, the part A might be cut off, and a little Bent Iron Work (Fig. 116) substituted. The curves would have to be very tightly screwed into position, as they are necessarily exposed to constant handling.

PENDANTS.

When Brackets can be ornamented satisfactorily, a Pendant, such as Fig. 117, should be tried. Only one example of treatment is shewn, as it is the scope of the work, and not the detail, to which it is desirable to draw attention.

This figure is intended to have only two arms; but it might be made with four, although Figs. 118 and 119 are forms better adapted for a number of lights.

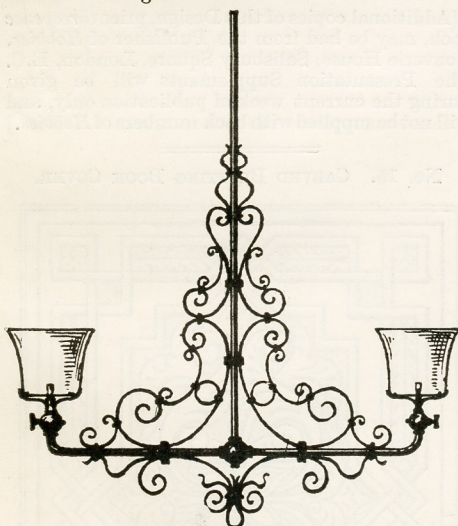


FIG. 117.

Many such plain Pendants can be bought at a reasonable price; or, if a special size is wanted, it can be made without incurring much extra cost.

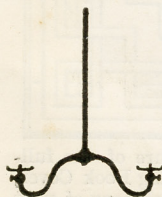


FIG. 118.

The Ornament of Fig. 117 calls for no special description, as there is nothing exceptional about it. Ordinary Collar Bands will hold the Bent Iron in position, as the combination of

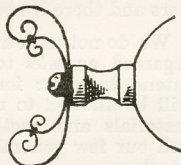


FIG. 116.

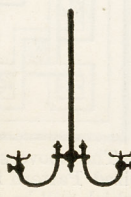


FIG. 119.

vertical and horizontal tubing prevents displacement. Brass necks, however, would undoubtedly add to the effect. These pendants are very suitable for Hall and Staircase lights; they can be suspended from a ceiling with a Ball and Socket joint, or may be hung over a landing by means of a strong Iron Bracket. In the fitting up and adjusting of the gas connection, the amateur is, of course, dependent on a tradesman, but all the other work he can do himself. When the tubing is very long, say for a Staircase light, the shaft should be relieved with such little Ornaments as Figs. 120, 121, or 122. These would help to break the monotony and if something more brilliant were wanted, the reader will find a suitable example in Fig. 110, given in the preceding Chapter.

Brackets and Pendants can be fitted so as to hold Oil Lamps; but in this case they must be considerably heavier, and the Ribbon Strips will consequently have to be wider. For Electric Light they can be made less heavy; indeed, tubing here is not absolutely necessary, although it is safer to employ, as it not only hides, but protects the wire.

STANDARD LIGHTS.

Upright Standard Lights can be made in many elegant forms with the use of Bent Iron. Fig. 123 shews one style of treatment. Such articles are suitable for Newel Posts, or can be fixed on any Pedestal; small ones are often placed on mantel shelves. The Globe could be fixed on as given in the sketch, or the Standard could be fitted with an ordinary gallery.

The upright tubing of this Light could be round in section, and three arms made; or it might be square, with four arms. Both ways look well.

In this Chapter all remarks have been strictly confined to the subject, and have kept rigidly to Bent Iron Work. A vast amount may also be done with Bent Brass, and even more with Sheet Brass and Copper. These metals are specially adapted to Lights, and shall be referred to briefly in a closing chapter. But it might be pointed out that there can be little use in any amateur attempting these more advanced branches of the Art until he has so far mastered the one at present under consideration; and there is meanwhile so much to be done with Ribbon Iron alone, that no one need be in any hurry to discard it for more difficult, if perhaps more varied, methods.

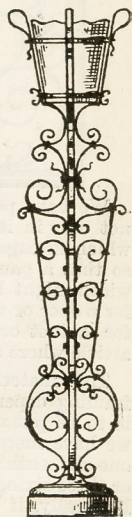
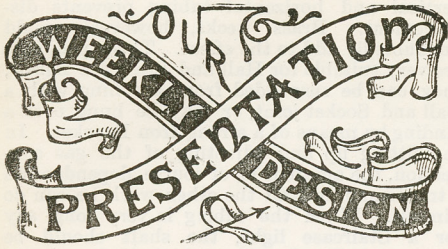
FIGS.
120,
121,
AND
122.

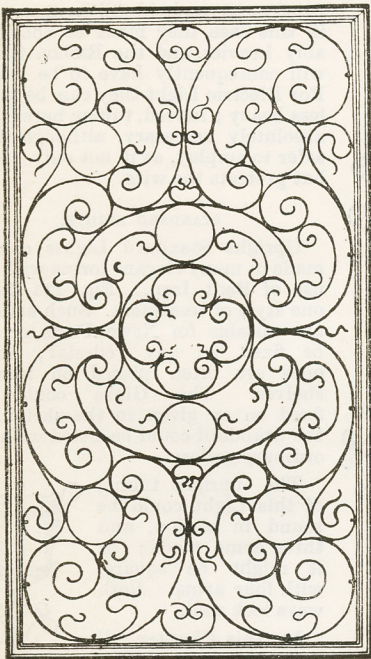
FIG. 123.

(To be continued.)



No. 14. BENT IRON WORK GRILL.

AS may be seen in another part of this week's issue of *Hobbies*, we are offering two Prizes for the best Bent Iron Work Grills made from this design.



We have purposely designed a Grill which is not only in itself of a generally useful size, but which is capable of being repeated either way, so that a panel twice the length or twice the width might be made. The Grill could be used for a door or window, for a small coil case front, for cabinet or cupboard door panels, or for any article where an ornamental front was desirable.

The material which is used for the outer framing depends on the use to which the Grill is to be put when completed. On the drawing, we have merely shewn an iron frame of about one-sixteenth inch thickness, but one-eighth inch or three-sixteenth inch may be used if necessary. Naturally, if there is to be any strain on the panel, a strong frame must be obtained, but if it is simply to be placed within wood mouldings, and used as a door ornament, there can be no advantage in having heavy iron.

The strip iron should be of the best quality or it will be impossible to preserve the grace of the

curves. Almost any width of metal could be used (this being another matter which is determined by the position which the Grill is afterwards to occupy,) but quarter inch may be suggested as a useful average width. With such a pattern, narrow iron would give a wiry appearance; and as the ornament is not very open, wide strips would naturally cause the panel to look heavy.

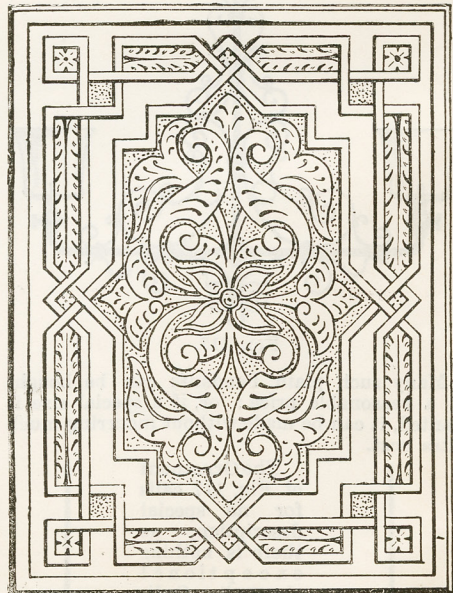
It will be seen that the four quarters of the Grill are symmetrical. This lessens the labour, as it means that four similar curves of each form are bent. The curves which touch the outer frame may be riveted, but collar-bands should be used for all other joints. Solder may be applied here and there if necessary.

We do not wish any of these suggestions to be regarded as *rules* to be observed by those who intend to enter for competition. Competitors will be allowed to use, without prejudice, any materials and methods which they deem fit, and our few general hints are only thrown out to others.

In some future number we may give the working drawing of a corner cupboard or other small article where this Grill could be used with advantage, and we shall be glad to have any suggestions from our readers as to what particular class of article would be most acceptable.

[Additional copies of this Design, price *three pence* each, may be had from the Publisher of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. The Presentation Supplements will be given during the current week of publication only, and will not be supplied with back numbers of *Hobbies*.]

No. 15. CARVED BLOTTING BOOK COVER.



The above sketch is a miniature of the full-sized Pattern for a Carved Blotting Book Cover, which will be given away with each copy of next week's issue of *Hobbies*. This Design will be the subject for a Wood Carving Competition.

PRIZE Competitions

PHOTOGRAPHY—DECEMBER COMPETITION.

For the best Photographs sent in last month Prizes have been awarded as follows:—

First Prize, Ten Shillings, to JOE FIRTH, Norristhorpe, Liversedge, Yorks, for "The Huckster."

Second Prize, Five Shillings, to ARTHUR S. HAMPTON, 163, Oxford Road, Reading, for "Mawgan Church, North Cornwall."

Hon. Mention to MASTER E. WEAVER for "A Cricketer," MISS H. PHILLIPS for "Who shall it be, and" "MRS. EVELINE C. COPEMAN."

The Competition is not quite so large as the last one, but good work was sent in, and we are pleased to notice that many young Photographers are not afraid to send up work for our inspection. We hope to give further details in our next issue.

BENT IRON WORK.

For the best BENT IRON WORK GRILLS, made from this week's Presentation Design, we offer one Prize of a GUINEA, and one Prize of HALF-A-GUINEA.

All matters relating to the actual work, *i.e.*, width of metal, method of fixing, etc., are left entirely to Competitors, and the awards will be given to those examples which shew the best general work.

Every Competitor should write his or her name clearly on a label which must be attached to the Grill itself.

All Grills sent in for Competition will be returned if desired, and for this purpose fully stamped and addressed labels must be enclosed. In no case can articles be returned unless sufficient stamps are sent.

Articles should be marked "Grill," and must be received at our Office not later than March 31st, 1896.

A COMPETITION FOR EVERYONE.

We will give a Prize of ONE GUINEA for the best, and one of HALF-A-GUINEA for the second best, list of TWELVE HOBBIES suitable for treatment in this paper. The subjects which have already been written upon may be included if the Competitor thinks well to do so.

It must not be forgotten that *Hobbies* is intended to deal with the recreative occupations of ladies as well as with those of the other sex. What we wish every Competitor to do is to make a list of the Twelve Hobbies which he or she may think more interesting and more useful than any others, and arrange them in what may be considered the order of their importance.

The Prizes will be awarded to the lists which we regard as the most suggestive and best calculated to appeal to the interest of the largest number of our readers.

All envelopes should be marked "Suggestions Competition," and must arrive at our office not later than Saturday, February 8th.

JUNIOR FRETWORK COMPETITION.

On the Supplement presented with No. 11 of *Hobbies* will be found the Design for a small Tablet inscribed with the word "Hobbies." For the best example of Fretwork, cut from this pattern according to the following conditions, we will give:—

A Treadle Fretsaw Machine, with Tilting Table, Dust Blower, Drill, etc., and Three

Additional Prizes of One Gross of the Best Fretsaw Blades each.

CONDITIONS.

- 1.—All Competitors must be under sixteen years of age. The exact age should be stated.
- 2.—All Articles must be cut with the Hand Fretsaw Frame.
- 3.—The choice of wood is left to the Competitor, but the wood used should not be more than 3/16 inch thick.
- 4.—All Articles must be left plain, and neither polished nor varnished.
- 5.—Competitors are allowed to send in more than one article.
- 6.—A label with full name, address, and age of Competitor must be tied to the actual piece of work. Articles should be securely packed between two pieces of wood (or stout cardboard), and must be received at our Office not later than January 31st, 1896.

Address—The Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C.

Parcels should be marked "Junior Fretwork Competition."

In order to save ourselves the very great time and labour involved in repacking and returning the large number of Articles which we expect to receive, we have purposely selected a Pattern which will be purely a test, and which is not of any value to the Competitor when cut out. The specimens submitted will therefore not be returned.

FRETWORK.—VICTORIA COMPETITION.

For the best Fretwork Model of a Victoria, made from the Design presented with *Hobbies* No. 10, we offer Two Prizes:—

First Prize—An "IMPERIAL" TREADLE FRETSAW, with Superior Tilting Table for Inlay Work, Vertical Drilling Attachment, and all Modern Improvements.

Second Prize—A Finely Finished Treadle Fretsaw, with Nickel-plated Tilting Table, Emery Wheel, etc.

The choice of wood, method of cutting, and all matters relating to the actual work are left entirely to the Competitor. We would strongly urge, however, that all Articles should be left plain, and that no polish, varnish, stain, or paint of any kind be used.

Every Competitor should write his or her name clearly on a label which must be attached to the Victoria itself.

Articles sent in for Competition will be returned, and in every case it must be stated clearly whether they are to be sent back by post or rail. If by post, sufficient stamps must be enclosed, and these should be affixed to the addressed label. If returnable by rail, the name of the nearest Railway Station must be clearly given.

All Articles sent in for Competition should be marked "Victoria," and must be received at our office not later than February 29th, 1896.

PHOTOGRAPHY.

Every month we give a Prize of Ten Shillings for the best Photograph, and Five Shillings for the second best. Subject for this month—Landscape or Seascape. Photographs cannot be returned, and we reserve the right to reproduce any of them in *Hobbies* if thought desirable. Photographs for this Competition must be sent to our office not later than January 31st, marked "Photograph."

NOTICE TO COMPETITORS.

All Articles, Sketches, etc., for Competition should be addressed to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. The name and full address of Competitor must in every case be sent.

NOTE:—No correspondence can be entered into with Competitors, and all awards made will be final.



THE ELECTRIC CIGAR LIGHTER.



Cigar Lighter is certainly one of the most useful articles that a smoker could wish for, and this Electric one has the advantage of being unaffected either by rain or wind, and is always ready for use.

The principle upon which the Cigar Lighter works is as follows:—a piece of asbestos is embedded in a block of Plaster of Paris, around

this piece of asbestos a length of German-silver wire is wound, and the ends connected to a suitable contact piece. Upon pressing a push, the lid of the case containing the mechanism flies open, and contact is automatically made, allowing the Electric Current to pass through the coils of wire surrounding the asbestos. These wires rapidly become heated, and cause the asbestos to glow with a bright red heat.

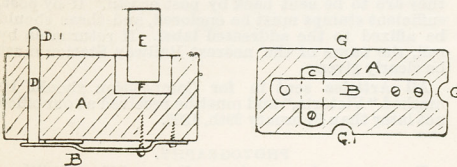


FIG 7.

We can now proceed with the construction. First procure a hard wooden block two inches long, one inch wide and one inch thick, plane and sandpaper this smooth and round off the edges. Then bore a half-inch hole half-inch deep, and another hole one-eighth inch in diameter, but right through this time; these holes are shown at F and D respectively. Then cut three grooves, one at each side and one in front, as at G.

Now cut a strip of stiff spring brass, two-and-half inch long, and quarter-inch wide, and cut off the odd half-inch; then drill a small hole near the end of each, and screw them on the bottom as shown in B and C.

Procure a small piece of sheet asbestos about two inches long, one-inch wide, and one-sixteenth inch thick, and cut off a piece about half-inch long; then bore a small hole in the centre.

We shall now want a few inches of the No. 40 German-silver wire; put one inch of this through the hole in the asbestos, and bend the other end upwards as shown in Fig. 8 A. Bend the asbestos round this long end, and bind the long end of the wire round the asbestos as shown in Fig. 8 B. Then take the remaining piece of asbestos and wrap it round the other roll; a thin piece of copper wire should then be bound round this complete roll, as shown in Fig. 8 C, to prevent the roll from coming undone. The diameter of the roll should be about quarter-inch.

A table-spoonful of Plaster of Paris must now be mixed (not too thick), and the large hole in the wooden block filled with it; place the unwired end of the asbestos roll in the centre of the plaster, as shown in Fig. 7, E, F.

Now take a short piece of No. 22 B W G cotton covered wire, and join one end to the right hand end of the German-silver wire, and solder the other to the short contact piece Fig. 7 B. The wire should rest in the groove G 1.

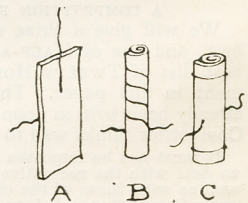


FIG 8.

A length of No. 22 flexible silk covered twin wire is now required; separate the conductors, cutting one an inch shorter than the other, and bare about half-an-inch of each. Then solder the shortened end to the spring contact B, and the other end to the remaining end of the German-silver wire. The silk and cotton covered wires may then be cemented in their respective grooves.

When adjusting the wires, it is better to join them as close as possible to the asbestos, so as to prevent loss of energy.

The instrument may now be tested by connecting the wires to the Accumulator terminals, when the asbestos should become highly heated.

We can now proceed to make the case. This should be made of stout sheet zinc, and may be made in two parts. We will take the bottom

part first, and a sheet of zinc six inches long by two inches wide will be required; bend this into the shape of an oblong case, and neatly solder the joint. Fig. 9. indicates what is wanted.

Now proceed to make the top. Cut off a piece of zinc six inches long by an inch wide, and bend and solder as before. The top and bottom pieces should be made so that when placed end to end they will appear to be as one unbroken tube. A top should be soldered to the smaller case.

If the reader does not feel up to making these cases, he can easily get them made by any local tinsmith, to whom it is really a very simple task, but one requiring a certain amount of that "fakerology," which an amateur rarely possesses. Should the reader choose to get them made, he should endeavour to obtain permission to watch the craftsman at his work; then, by so doing, he may learn in half-an-hour more than we could teach him in a dozen numbers of *Hobbies*.

Our next operation is to connect the two cases together so as to make a box with a lid capable of being opened. We shall want a hinge and a spring catch similar to those used in jewel cases; in fact, the reader should endeavour to obtain such a case, no matter how old, so long as the catch and hinge are all right. Presuming the reader has procured the case, he must first take off the hinge, catch, and catch-plate. The hinge had better be put on first; to do this, take the zinc cases, place them open end to open end, and put a strong rubber band round them to keep them in position. Then solder the hinge neatly on the two portions so that the bend is exactly over the division line of the zinc cases.

When the solder is set, the rubber band may be taken off and the catch put on. The method of fixing the catch is rather difficult to describe, as catches are of many different shapes and sizes, and space forbids a description of them all; however, we will take a typical specimen as shown in Fig. 10. A is the front of the case, B the shank of the catch, C the catch-plate, D the push, and E the rivets.

First mark outside the case the correct position of all the holes required, and drill them to the proper size. The second operation requires much patience and careful handling; it consists of riveting the catch and plate inside the case. We shall require some small rivets, which may be cut from fretwork pins. Take the case and shank, place them in position, and put the rivets through from the inside; then place a piece of flat iron under them and hammer them down. When hammering down a rivet it is best to hit the rivet a little to the side instead of flat on top; and in the case of such small rivets with very gentle taps. When the rivet is hit flat on the top, it has a tendency to bend sideways; but if hit sideways, working all the way round, a *hurr* is formed, which increases as the hammering proceeds. This suggestion applies equally well to both large and small rivets.

Having fixed the shank, the catch-plate may be proceeded with. The catch-plate is the portion that the shank catches, and should be fixed

so that when the lid is pressed down, the hook of the shank will just engage the hole in it and prevent the lid being opened unless released by pressing the push.

The various parts now being complete, we can proceed to fit them together. Take the wooden block containing the asbestos, etc., and fit it in the body of the zinc case, so that the top is flush with the edge of the case; of course the asbestos should project. Then put a couple of short brass screws from the outside of the case to hold the block secure, taking care that they do not touch any of the Electrical conductors. A piece of zinc should then be soldered to the bottom, first making a hole in it to pass the flexible wire through.

When using the Cigar Lighter it should be automatically thrown into action by pressing the push, but although, in the present state of the apparatus, this desirable end is apparently afar off, the means of obtaining it is simple in the extreme.

First cut a thin piece of wood so that it will fit in the hole D, Fig. 7, in which it must slide easily up and down without sticking; place it in this hole so that one end touches the spring contact B. A piece will be found to project; cut this off so as to leave about quarter-

FIG. 10. inch projecting.

Now cut a one-inch cube of wood and glue it to the lid at the zinc end, so that when the lid is pressed down this cube will press down the plunger D.

The Cigar Lighter is now practically complete; but as plain zinc is not particularly inviting to the eye, a little attention may be paid to render it somewhat more artistic. This may be done by applying some black cycle enamel to the case, after which it must be laid aside to dry.

Our task being so far finished, we may look to see that everything works well. The ends of the flexible wire are connected to the positive and negative terminals of the Accumulator. When the Cigar Lighter is being carried in the pocket, the lid must of course be closed, causing the wooden block to press down the plunger, and preventing the brass strip from making contact. When the apparatus is required for use, the button is pressed, allowing the spring contact to push up the plunger and lid, and making contact with the brass piece, thus enabling the current to flow through the German-silver coils and causing the asbestos to become heated. Upon shutting the lid, the contact is broken.

It will be seen that the apparatus is automatic in its action, only requiring one hand for its manipulation, and is perfectly free from danger, which is more than can be said of safety (?) matches and fuses.

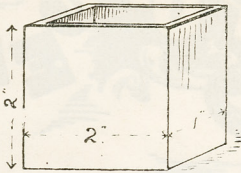


FIG. 9.

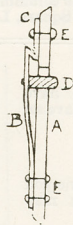
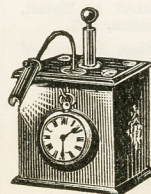


FIG. 10. inch projecting.

NEW YEAR'S GIFT.



Genuine Electric Lighting Watch Set. Just the thing for dark nights and winter mornings. Lights instantly. Two powerful Batteries and handsome Brass Fittings. Will not get out of order. Price 7s. 6d., post free.—H. PRICE & Co., 4, Berry Street, Clerkenwell Road, E.C.



**** All communications to be answered in these columns should be marked "Correspondence," and must be addressed to the Editor of *Hobbies*, Bouverie House, Salisbury Square, London, E.C. In no case can we reply to enquiries by post.**

ELECTRICITY.

WILLIAM WOODHAMS.—We have your letter, and have written to our Electrician to say that we must have an article on Telephones as soon as possible.

FRETWORK, CARVING, &c.

C. E. LONG.—We have never tried the Fret Machine you speak of. If it is strong and serviceable you may congratulate yourself that it is "cheap."

H. D.—You can buy good liquid glue in many stationers and other shops. If you wish it specially for Fretwork, try our advertisers. The price will be sixpence per bottle.

PRIZE WINNER.—There can be no objection to your making the front wheels of the Victoria turn on a pivot, but will the model be strong? That is an important consideration.

A YOUNG READER, ETC., of *Hobbies*.—The Victoria Model will look perfectly well if cut from $\frac{3}{8}$ inch wood. We merely suggested $\frac{3}{16}$ inch as many Fretworkers find it difficult to fix $\frac{3}{8}$ inch pieces together.

BIG BEN.—Unfortunately your sample has gone amissing. Stain or varnish may be applied with a brush, but to polish an article you must rub. Are you determined to colour your "Big Ben?" Will it not look better plain?

D. D. BENNETT.—The wheels of the Victoria are designed to revolve; they should be fixed on by a fine nail or screw. We are interested to learn of the mechanical training which schoolboys receive in Sweden, and certainly agree with you that it is greatly to their advantage.

T. B. ROBINSON.—The Saw blade you enclose is a fine Swiss one. You can get them from any of the Fretwork Firms who advertise in *Hobbies*. The price you mention is 2/3 per gross, but we fancy that they may be had for less. Remember, these are not by any means the best Fretsaws to use.

METAL WORK.

ESPERANCE.—For firms who are publishers of Bent Iron Work Designs we can suggest Messrs. J. H. Skinner and Co., Dereham, and Messrs. Harger Brothers, Settle. With *Hobbies* from time to time you will get Designs gratis. We have never tried the "Ironical," but understand that it is a very useful article for Bent Iron Workers.

PHOTOGRAPHY AND LANTERNS.

A BEGINNER.—The price of the book is one shilling, and no doubt you can get it in Manchester at Chapman's, Albert Square.

H. E. BARTLETT.—"Elementary Lessons in Photography," by John A. Hodges, published by Hazell, Watson, and Viney, 1, Creed Lane, London, E.C.

G. H. TYLER.—You cannot do better than buy one of Lancaster's, and we should recommend the "Instantograph" series. You could get what you require for the sum named.

W. LANGFORD.—Send to Messrs. W. Butcher and Sons, Blackheath, London. They have special fittings for the Incandescent gas burner, which can easily be fixed in an ordinary Magic Lantern. We cannot give you the price, as we have no catalogue at hand.

J. T.—A "Merveilleux" $\frac{1}{4}$ -plate camera, with lens, tripod, and one double dark slide would cost you 21s. One extra slide would cost you 5s. 6d. For the balance of your 30s. you might fit yourself up with 2 $\frac{1}{4}$ -plate dishes, one for developing and one for fixing, 1 $\frac{1}{4}$ -plate printing frame, a small quantity of hydroquinone, developer, hypo, a packet of printing paper, and toning bath. This will cover what you require for a start. We fear the quantities of chemicals will be very small.

STAMPS.

F. P. B.—Worth nothing to a postage stamp collector.

ELSON'S Canadian 5 cent. of the musk-rat issue is worth 3d.

PECUNIA.—The card should be worth from 5s. to 7s. 6d., according to condition.

H. K.—Your French stamps are both quite common. The 1c. U.S.A. blue imperf should be worth about 6d.

ERROR.—The English envelope you describe is possibly not an error at all, but simply the result of fading. I should like to see it. Keep the envelope entire whatever you do!

J. B. H. can discriminate between Paris printings and Athens printings of Grecian stamps by closely studying the shading on the neck of head of Mercury. In the Paris print the lines are fewer, and the printing generally is much finer.

J. C. D. G.—The 1d. red, small crown watermark, with hair-line through value, is catalogued by Hilckes at 2s. 6d., but the value of any specimen depends entirely upon its condition. We should much like to see your copy, and could then give you an exact valuation.

T. A. McC.—You need feel no uneasiness as to the bona fides of British Colonial stamps in the unused condition. Great Britain has not yet gone into the "gumpap" business. (2) There is nothing against the particular South American States that you mention, but others, such as Ecuador, Honduras, Nicaragua, and Salvador are addicted to the practice of catering specially for stamp collectors.

MISCELLANEOUS.

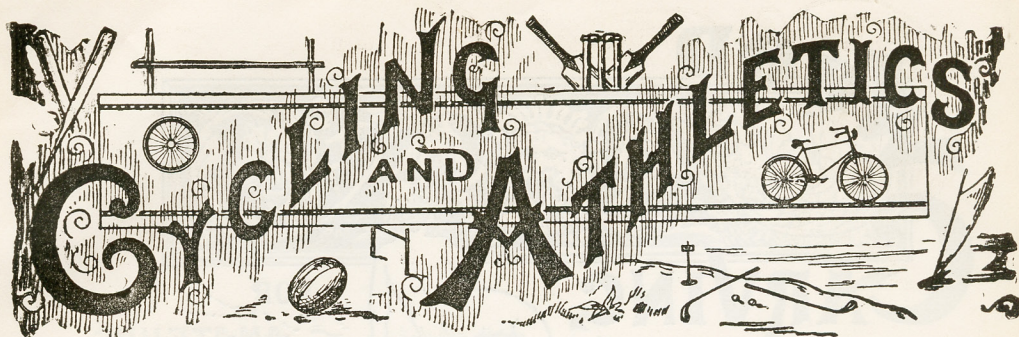
MECHANIC, A. W. J., AGOUTI, J. R. TRUMBLE, ETC.—We have noted your suggestions. The various *Hobbies* mentioned we hope to deal with in due time.

H. PORTER.—We are greatly interested in your letters. The subject you mention seems a good one, and we are making inquiries with a view to having an article on it.

**** As we are obliged to go to press nearly a fortnight before the date of publication, we must ask Correspondents not to be disappointed should answers to their queries not appear as soon as they expected. In every case we shall endeavour to supply an answer in the first possible issue.**

£20

Tobacconists COMMENCING. See Illd. Guide & Catalogue (258 pgs.) 8d. "How to open a Cigar Store, £20 to £2,000."—Tobacconists' Outfitting Co. (Reg.), 126, Euston Rd., London. N.B.—Shopfitters and showcase makers for all trades. (Over 50 years reputation), Mgr., H. Myers.



NOTES ON SPORT.

STURGESS, the amateur walking champion did not add very much to his reputation in the Polytechnic race on Boxing Day. The champion, of course, started from scratch in the 15 miles' handicap, and had announced his intention of attempting to beat record for the distance.

Sturgess, however, was hardly in his best form (who would be on Boxing Day?). Neither his style nor his speed were quite up to his usual standard. In fact, he had to take a "caution" on two occasions, a thing most unusual with him. While the handicap was progressing, a walker named Knott, who had 6½ minutes start from Sturgess, had actually been gaining on the champion all the way.

At 11 and 12 miles, Sturgess was credited with records, and the fact was published to the world in the sporting papers next morning. This was really a double error, as was afterwards discovered. In the first place, Knott's times at 11 and 12 miles, though not taken, must have been faster than those made by Sturgess. And in the second, not even Knott could have beaten the real record, standing to the credit of T. Griffith, and made a quarter of a century ago.

Sturgess retired after 12 miles, and the timekeepers then turned their attention to Knott, who covered the full 15 miles in the excellent time of 2 hours, 2 minutes, 57 4-5th seconds, a splendid performance for mid-winter.

On the last Saturday in the old year, the famous Salford Harriers contested a 6 miles inter-club race with the Crewe Harriers. The distance was originally fixed at 8 miles, but owing to the late start and the bad weather, it was agreed to reduce the mileage to 6.

After an interesting race, the old Salford champion, W. H. Morton, was first man home, closely followed by three other Manchester men. Salford also secured sixth and seventh positions, and thus won easily.

It is marvellous what a considerable number of prominent English football players find their way to South Africa. Mr. C. J. L. Platnau, himself an old athlete and football man from Birmingham, has written from Johannesburg to one of the English football journals, giving some interesting particulars of football at the Cape. In his letter he names more than a dozen players of note, now the leaders of African football, all of whom made high reputations in England. The chieftaincy to football in South Africa is "distance." When a club has to go 1,000 or 1,500 miles to play off a cup tie, it must certainly need a great amount of enthusiasm to keep the game alive. From all accounts this enthusiasm is not lacking, but rather different arrangements have to be made for the decision of challenge cup contests to what we are accustomed in this country. Football competitions, Mr. Platnau tells us, are localised by the decision of a "Tournament," held each year in a different district. Every club which can get to the tournament, and many

travel a great number of miles in order to take part in it, enters the competition. Clubs which are too far away have to content themselves with waiting patiently until it becomes the turn of their district for tournament honours.

The cycle tax in France is 10 francs per annum. This in 1894 produced about £70,000. 25 per cent. of this is returned to local authorities, thus giving the different municipalities an interest in the effective collection of the tax. It is stated that there has been absolutely no grumbling about the imposition of this tax, many cyclists considering that on the whole it is advantageous rather than otherwise.

The N.C.U. has once more rejected the three class scheme, and adheres to its decision to recognise none but amateurs and professionals. On paper this intention is a very laudable one, but in practice it is very difficult. Nearly all the prominent riders are "go betweens," men who are in the employ of the trade. Some of these are no doubt professionals in disguise, others are simply assisted amateurs. They have time allowed them for training, and they have their out-of-pocket expenses found for them, as well as machines and pacemakers. Many of these riders now hold licenses as pure amateurs, which undoubtedly they are not, and the N.C.U. is being hoodwinked and cheated every day. Under these circumstances there is a strong feeling abroad that it would be far better to openly cater for these pseudo amateurs than to continue the farce of regarding some of them as pure amateurs, and some as professionals, as is now done.

Many cyclists who are well versed in racing procedure strongly advocate the adoption of a simpler plan than this. They would abolish all distinction of class, and allow all riders who behaved themselves, and were not guilty of roping or foul practice, to race together. No doubt there is a good deal to be said for such a scheme.

It is stated that there are now no less than 131 professional cyclists, nearly all of first grade, resident in Paris. All of them are presumably making, at least, a living out of cycle racing in the Gay City, and a few are undoubtedly doing very well for themselves.

Most of the leading men have retainer fees from large bicycle tyre manufacturers, whose goods they ride. The Parisian seems to be as keenly interested in cycling as ever. The wheel has become not only a national pastime, but almost a national sport in France. Good racing, even on the small covered tracks of Paris, always commands a profitable gate.

Away from the track, the pastime flourishes exceedingly. The bigoted aversion to the cycle of the county magistrate, and other people of the same class in England, is said to be entirely absent in France, where the machine is generally looked upon with great favor, and its usefulness, both commercially and as a recreative agent, are both appreciated and valued.

WOOD CARVING FOR AMATEURS

CHAP. VI.—PREPARATIONS, AND SIMPLE WORK.

DRAWING.

Drawing necessary for Carving? This is a query which is often asked, and which can be answered both in the Affirmative and in the Negative. To put it simply, drawing is not absolutely vital to the Art, but its usefulness cannot be over-estimated. To encourage those who have never practised any freehand drawing, it may be said that many fairly good Carvers can do little or nothing with their pencils. Sculptors occasionally find it extremely difficult to convey their ideas to paper; and many copper-plate engravers, who can produce matchless head lines, are miserable writers when they take to pen and ink. This is one side of the question. On the other hand, it should be clearly pointed out that drawing, although perhaps not an essential, is an invaluable aid. Published patterns very often require slight corrections before they are traced; some of them, again, may have portions which are too difficult for the worker, and a knowledge of drawing would soon enable him to make such alterations as might suit his capabilities, and at the same time which would not spoil the design. Occasionally in Carving, as in painting, the line is lost, and when another can be drawn in exactly where it should be, it is a decided help. In addition to this, there is the great advantage of being quite independent of printed designs. Floral and foliated arrangements could be taken direct from nature, drawings could be enlarged or reduced to suit certain requirements, and pieces of furniture could be ornamented without having to search for suitable designs.

Those who go in for much Carving, and who can also use the pencil with some freedom, should always carry a note-book in their pocket when they visit museums, exhibitions, or any places of interest where there is a chance of getting some ideas. A few rough jottings will be found very useful; and if there be time, and if sketching is not forbidden, a careful study of some specially good example should be made.

SECTIONS.

In making a drawing never fail to take a section. Some beginners have a very hazy notion of what sections are, and find them more confusing than helpful. Sections indicate the thickness. Carving is not flat decoration; it has not only length and breadth, but also depth, and sections shew whether the relief is to be high or low. Thus, in Fig. 8, the mere outline

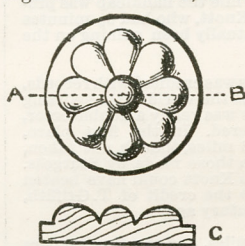


FIG. 8.

conveys nothing beyond the general form of the patera; the shading, of course, helps, but not to a sufficient degree. If the patera were sawn straight through at A B, the side view of the cut would be exactly as C. C is the section; it gives the height of the flat outer rim, the height of the centre bead, and the curve of the eight nulled petals. There is nothing difficult to understand, if it simply be imagined that the ornament has been cut through where the line of section is given.

TRANSFERRING.

In transferring the pattern to the wood, the best plan is to use black carbon paper. Trace the outline carefully, ruling the straight lines, and describing any circles with a pair of compasses. A vertical line should be drawn through the centre of the pattern; also a horizontal line, if necessary. Care must be taken that these lines are at right angles to each other, and that they pass exactly through the centre. When the design is of a purely geometrical nature, all squares, angles, and circles should be tested, so that there may be no irregularity.

Never paste the pattern to the wood. This may be convenient in Fretwork; but with Carving it is very awkward, as the paper would tear and constantly get in the way, besides always tending to blunt the edge of the Tool.

FIGURE 9.

Fig. 9 represents the lid of some box, which can be tried after the pleasures of practising on Pine have been reluctantly abandoned. This simple pattern might be carved on a coal cabinet, or on some other article; or it could be cut separately, and afterwards used as found convenient. Lime might perhaps be the most agreeable wood to use. To suggest a suitable size, 12 or 14 inches square would do for the outside measurement, with six or seven inches for the diameter of the circle. As there is marked regularity in the pattern, it must be drawn carefully with a T-square or straight edge, and a pair of compasses.

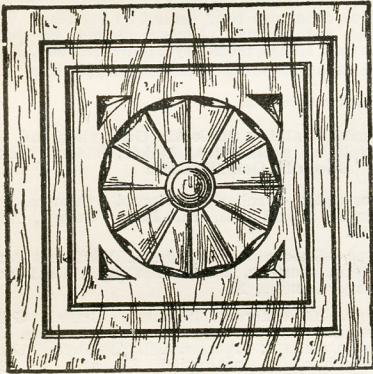


FIG. 9.

All the Carving is to be kept pretty flat, in no case there being a dip of more than one-eighth of an inch. The two border lines are cut with a V, and will not give much trouble if this Tool has previously been tried. A Corner Firmer could also do the work by cutting first one slanting line, and then another to meet it. In the centre portion much depends on having the fan-shaped divisions carefully spaced out; it is worth while spending an extra ten minutes on this in preference to running the risk of total failure later on. The large circle should be outlined with a Gouge, and then the curved ends of each division cut away with the same Tool. The fan divisions are round backed, and are separated by a sharp "ditch," which should be cut as straight and clear as possible. The centre stud will be tackled with a smaller Gouge, and will not present many difficulties. The four small corner ornaments are simply made; they consist of three cuts which slant down from the sides, and meet at a centre point.

In cutting out the whole pattern, the aim must be to preserve the general form. Other difficulties are merely nominal; there is no grounding, and the only work which can be called modelling is in curving the rays of the fan, and in rounding off the circular centre.

Fan-shaped ornaments are much used in Sheraton work, and are very often found on inlaid secretaires, tables, and other pieces of furniture.

FIGURE 10.

Another way of treating the same design is to leave the centre in relief, as Fig. 10. The fan wheel is the same as before, but instead of being

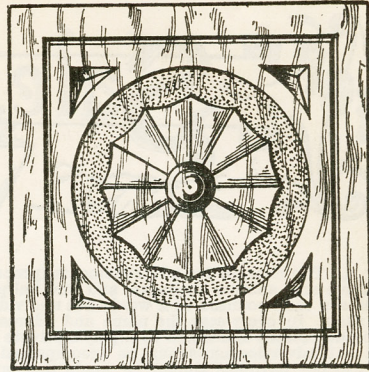


FIG. 10.

sunk, the circular border round it is cut away to the depth of one-eighth inch, and then punched all over. At the corners are similar ornaments as in Fig. 9, but slightly larger; there is a single V-cut groove beyond. The outline of the centre fan might be very gently undercut, and the sharp upper edge taken off, as shewn in Fig. 11. In the previous figure the fan edges might also be blunted.

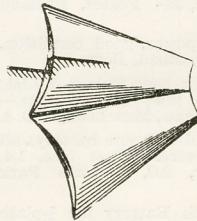


FIG. 11.

To explain the simplest form of undercutting, Fig. 12 shows the section of a patera which has a bevelled, or chamfered, edge. Fig. 12A illustrates the same ornament with an undercut outline. The bevel is simply in the opposite direction. A great deal of undercutting may be done

with happy results when experience is gained, but until then it should only be attempted on a small scale. Before a leaf or a twig may be carved to stand clear of the ground, a considerable amount of practice is required.



FIG. 12.



FIG. 12A.

Instead of having the divisions of the fan curved in section, they might be hollowed, and left with a sharp ridge in place of the ditch. This method is equally effective, but the carving is rather more difficult.

(To be continued.)

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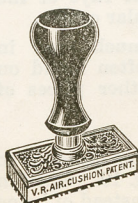
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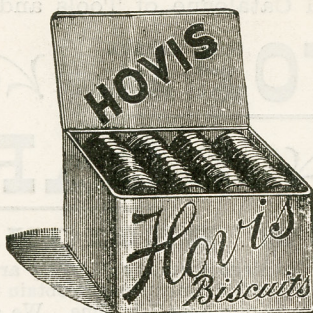
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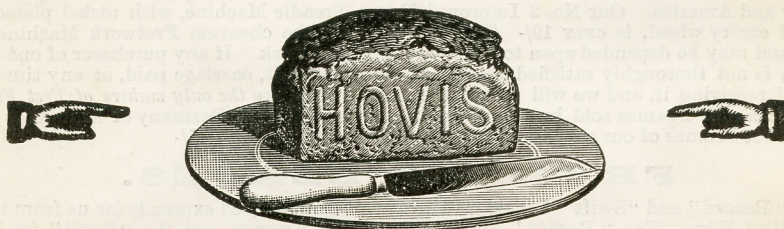
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